AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously presented) A method for locating a position of a feature in a scene, comprising the steps of

forming an image of the feature using a segmented array having a plurality of array subelements each having a linear dimension, wherein each of the array subelements has an output signal; and

cooperatively analyzing the output signals from at least two spatially adjacent array subelements

to establish a data set reflective of an extent to which output signals responsive to the image of the feature are produced from exactly one or from more than one of the adjacent array subelements, and

to reach a conclusion from the data set as to a location of the image of the feature on the segmented array with an accuracy of less than the linear dimension of an array subelement when the output signal is produced from more than one of the adjacent array subelements.

2. (Original) The method of claim 1, wherein the step of forming includes the step of

providing a sensor including an optics system that forms the image of the feature of the scene at an image surface, and the segmented array at the image surface upon which the image is formed.

3. (Original) The method of claim 2, wherein the step of providing a sensor includes the step of

providing a one-dimensional segmented array formed of pairs of two adjacent array subelements.

4. (Original) The method of claim 3, wherein the step of cooperatively analyzing includes the steps of

determining whether output signals responsive to the image of the feature are produced by one or both of the two adjacent array subelements, and

identifying the location of the image of the feature responsive to the step of determining whether output signals responsive to the feature are produced by one or both of the two adjacent array subelements.

5. (Original) The method of claim 3, wherein the step of cooperatively analyzing includes the steps of

determining relative strengths of output signals responsive to the feature produced by the two adjacent array subelements, and

identifying the location of the image of the feature responsive to the step of determining relative strengths of output signals responsive to the feature.

6. (Original) The method of claim 1, wherein the step of providing a sensor includes the step of providing a one-dimensional segmented array having spatially overlapping array subelements.

7. (Original) The method of claim 1, wherein the step of providing a sensor includes the step of providing a one-dimensional segmented array having non-spatially overlapping array subelements.

8. (Original) The method of claim 1, wherein the step of providing a sensor includes the step of providing a two-dimensional segmented array.

9. (Original) The method of claim 1, wherein the step of providing a sensor includes the step of providing a two-dimensional segmented array formed of a pattern of intersecting array subelements.

10. (Original) The method of claim 9, wherein the step of cooperatively analyzing includes the steps of

determining whether output signals responsive to the image of the feature are produced in single ones or combinations of the intersecting array subelements, and

identifying the location of the image of the feature responsive to a distribution of the output signals from the step of determining whether output signals responsive to the image of the feature are produced in the intersecting array subelements.

11. (Original) The method of claim 9, wherein the step of cooperatively analyzing includes the steps of

determining the relative strengths of the output signals responsive to the image of the feature that are produced in combinations of the intersecting array subelements, and

identifying the location of the image of the feature responsive to the relative strengths of the output signals from the step of determining the relative strengths of the output signals responsive to the image of the feature that are produced in combinations of the intersecting array subelements.

12. (Original) The method of claim 1, wherein the step of providing a sensor includes the step of

providing a two-dimensional segmented array formed of a pattern

of square array subelements, wherein four of the square array subelements meet at an intersection point, and

wherein the step of forming an image includes the step of

forming the image having a diameter of one blur diameter.

13. (Previously presented) A method for locating a position of a feature in a scene, comprising the steps of

forming an image of the feature using a segmented light-detector array having a plurality of light-detector subelements each having a linear dimension, wherein each of the light-detector subelements has an output signal; and

cooperatively analyzing the output signals from at least two spatially adjacent light-detector subelements

to establish a data set reflective of an extent to which output signals responsive to the image of the feature are produced from exactly one or from more than one of the adjacent light-detector subelements, and

to reach a conclusion from the data set as to a location of the image of the feature on the segmented light-detector array with an accuracy of less than the linear dimension of an array subelement when the output signal is produced from more than one of the adjacent array subelements.

14. (Original) The method of claim 13, wherein the step of forming includes the step of

providing a sensor including

an optics system that forms the image of the feature of the scene at an image surface, and

the segmented light-detector array at the image surface upon which the image is formed.

15. (Original) The method of claim 14, wherein the step of providing a sensor includes the step of

providing a one-dimensional segmented light-detector array formed of pairs of two adjacent light-detector subelements.

16. (Original) The method of claim 15, wherein the step of cooperatively analyzing includes the steps of

determining whether output signals responsive to the image of the feature are produced by one or both of the two adjacent light-detector subelements, and

identifying the location of the image of the feature responsive to the step of determining whether output signals responsive to the feature are produced by one or both of the two adjacent light-detector subelements.

17. (Original) The method of claim 15, wherein the step of cooperatively analyzing includes the steps of

determining relative strengths of output signals responsive to the feature produced by the two adjacent light-detector subelements, and

identifying the location of the image of the feature responsive to the step of determining relative strengths of output signals responsive to the feature.

18. (Original) The method of claim 13, wherein the step of providing a sensor includes the step of

providing a one-dimensional segmented light-detector array having spatially overlapping light-detector subelements.

19. (Original) The method of claim 13, wherein the step of providing a sensor includes the step of

providing a one-dimensional segmented light-detector array having non-spatially overlapping light-detector subelements.

20. (Original) The method of claim 13, wherein the step of providing a sensor includes the step of

providing a two-dimensional segmented light- detector array.

21. (Original) The method of claim 13, wherein the step of providing a sensor includes the step of

providing a two-dimensional segmented light-detector array formed of a pattern of intersecting light-detector subelements.

22. (Original) The method of claim 21, wherein the step of cooperatively analyzing includes the steps of

determining whether output signals responsive to the image of the feature are produced in single ones or combinations of the intersecting light-detector subelements, and

identifying the location of the image of the feature responsive to a distribution of the output signals from the step of determining whether output signals responsive to the image of the feature are produced in the intersecting light-detector subelements.

23. (Original) The method of claim 21, wherein the step of cooperatively analyzing includes the steps of

determining the relative strengths of the output signals responsive to the image of the feature that are produced in combinations of the intersecting light-detector subelements, and

identifying the location of the image of the feature responsive to the relative strengths of the output signals from the step of determining the relative

strengths of the output signals responsive to the image of the feature that are produced in combinations of the intersecting light-detector subelements.

24. (Previously presented) A method for locating a position of a feature in a scene, comprising the steps of

forming an image having a diameter of about one blur diameter of the feature using a two-dimensional segmented array having a plurality of square array subelements each having a linear dimension, wherein four of the square array subelements meet at an intersection point, and wherein each of the array subelements has an output signal; and

cooperatively analyzing the output signals from at least two spatially adjacent array subelements

to establish a data set reflective of an extent to which output signals responsive to the image of the feature are produced from exactly one or from more than one of the adjacent array subelements, and

to reach a conclusion from the data set as to a location of the image of the feature on the segmented array with an accuracy of less than the linear dimension of an array subelement when the output signal is produced from more than one of the adjacent array subelements.